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COAL,
ITS ANTIQUITY. DISCOVERY AND EARLY DEVELOPMENT
IN THE
WYOMING VALLEY.

A PAPER READ BEFORE THE

WYOMING HISTORICAL AND GEOLOGICAL SOCIETY

JUNE 27, 1890,

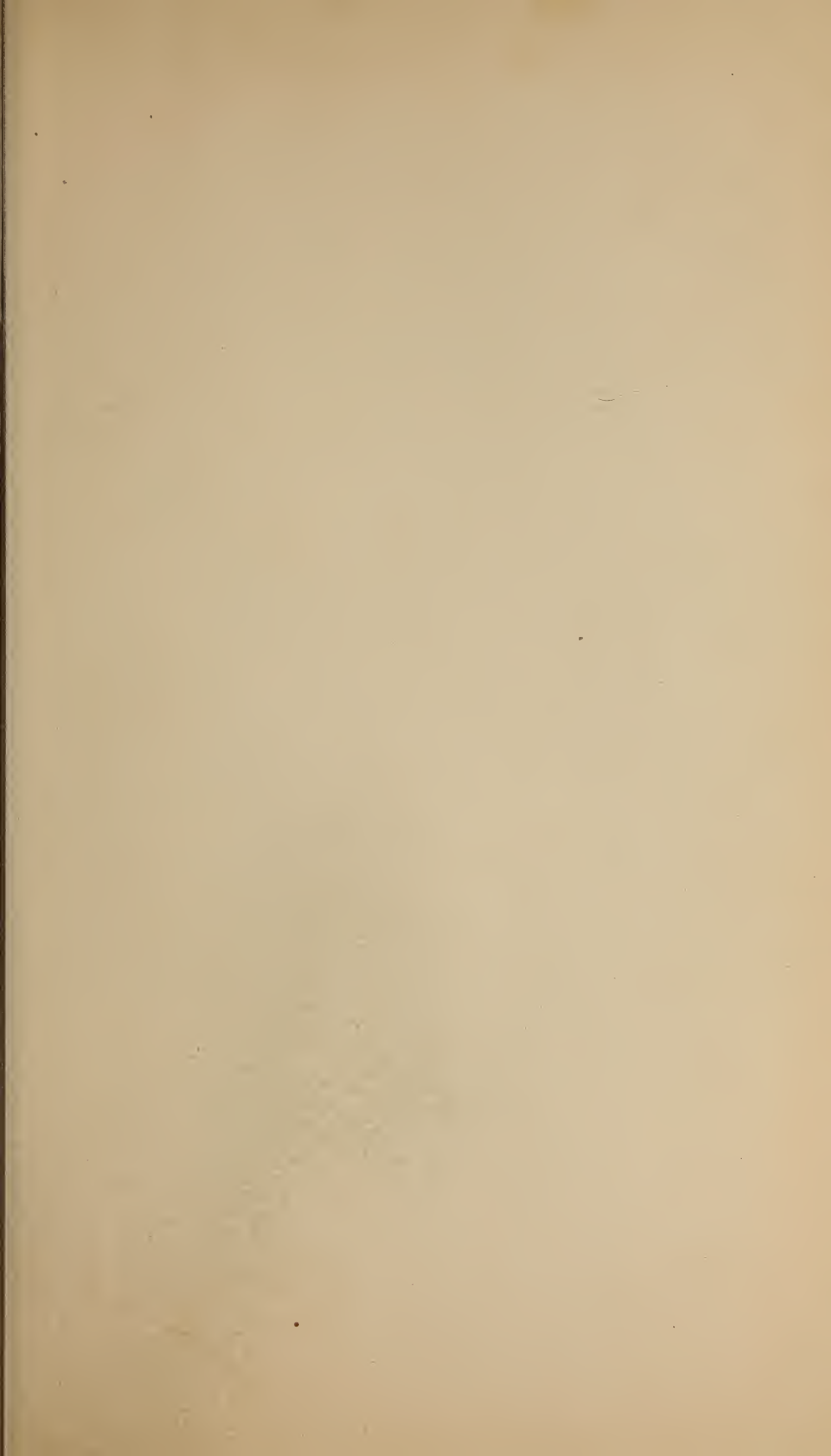
BY GEORGE B. KULP,

HISTORIOGRAPHER OF THE SOCIETY.



WILKES-BARRE, PA.:
1892.







COAL, ITS ANTIQUITY. DISCOVERY AND EARLY DEVELOPMENT IN THE WYOMING VALLEY.

[Paper read before the Wyoming Historical and Geological Society, June 27, 1890, by George B. Kulp, Esq., Historiographer of the Society.]

The word Coal has been derived by some writers from the Hebrew, and by others from the Greek or Latin, but whatever may be its origin, it is deserving of remark that the same sound for the same object is used in the Anglo-Saxon, the Teutonic, the Dutch, the Danish and the Islandic languages.

In its most general sense the term Coal includes all varieties of carbonaceous minerals used as fuel. Stone coal is a local English term, but with a signification restricted to the substance known by mineralogists as anthracite. In old English writings the terms pit coal and sea coal are commonly used. These have reference to the mode in which the mineral is obtained and the manner in which it is transported to market. Anthracite is the most condensed form of mineral coal and the richest in carbon. Its color varies from jet to glistening black, to dark lead gray; it is clean, not soiling the hands; ignites with difficulty; burns with a short blue flame without smoke, and with very little illuminating power. It gives an intense, concentrated heat. Some varieties when undisturbed while burning, partially retain their shape till nearly consumed, and some become extinct before they have parted with the whole of their carbon. The constituents of anthracite are carbon, water and earthy matters—not in chemical proportions, but in accidental and varying mixtures. There are also other ingredients occasionally present, beside the oxide of iron, silica and alumina, which compose the earthy matters or ash. These are sulphur, bitumen, &c. All coals, including in this designation naphtha, petroleum, asphaltum, &c., are but representatives

of the successive changes from vegetable to mineral matters. Anthracite is the condensed coke of bituminous coal. It must be borne in mind that the signification now attached to the word coal is different from that which formerly obtained, when wood was the only fuel in general use. Coal then meant the carbonaceous residue obtained in the destructive distillation of wood, or what is known as charcoal, and the name collier was applied indifferently to both coal miners and charcoal burners. The spelling "cole" was generally used up to the middle of the seventeenth century when it was gradually superseded by the modern form "coal." The plural coals seems to have been used from a very early period to signify the broken fragments of the mineral as prepared for use.

The use of mineral coal as fuel certainly antedates the Christian era, but the date of the earliest mining operations is unknown. A paragraph from the writings of Theophrastus, one of Aristotle's disciples, who was born in the year 382 B. C., is quoted to prove its early use, but as no reference is made to mining operations, it seems probable that the coal gathered and "broken for use" was loose outcrop coal. The passage reads: "Those substances that are called coals and are broken for use are earthy, but they kindle and burn like wooden coals. They are found in Lyguria, where there is amber, and in Ellis, over the mountain towards Olympias. They are used by the smiths." The word "coal" frequently occurring in the Bible, is doubtless used to denote wood, charcoal, or any substance used as fuel. The ancient Britons had a primitive name for this fossil, and Pennant says: "That a flint axe, the instrument of the Aborigines of our island, was discovered in a certain vein of coal in Monmouthshire, and in such a situation as to render it very accessible to the inexperienced natives, who, in early times, were incapable of pursuing the seams to any great depths." Cæsar takes no notice of coal in his description of England,

yet there is good evidence to believe that the Romans brought it into use. In the West Riding of Yorkshire are many beds of cinders, heaped up in the fields, in one of which a number of Roman coins were found some years ago. From Horsely it appears that there was a colliery at Benwell, about four miles west of New Castle upon Tyne, supposed to have been actually worked by the Romans, and it is evident from Whitaker that coals were used as-fuel in England by the Saxons. No mention is made of this fossil during the Danish occupation, nor for many years after the Norman conquest. The first charter for the license of digging coals was granted by King Henry III in the year 1239; it was there denominated sea coal, and in 1281 Newcastle was famous for its great trade in this article. The privilege of digging coal in the lands of Pittencrief, was conferred by charter on the abbot and convent of Dūmferline in 1291, and at a very early period the monks of Newbattle Abbey dug coal from surface-pits on the banks of the Esk. In 1306 the use of sea coal was prohibited in London from its supposed tendency to corrupt the air. Shortly after this it was the common fuel at the King's palace in London, and in 1325 a trade was opened between France and England in which corn was imported and coal was exported. Aeneas Silvius Piccolomini (afterwards Pope Pius II), who visited Scotland in the fifteenth century, refers to the fact that the poor people received at the church doors a species of stone which they burned in place of wood, but, although the value of coal for smiths and artificers' work was early recognized, it was not generally employed for domestic purposes till about the close of the sixteenth century. In 1606 an Act was passed binding colliers to perpetual service at the works at which they were engaged, and their full emancipation did not take place until 1799.

In 1615 there were employed in the coal trade of New Castle four hundred sails of ships, one-half of which supplied

London, the remainder the other part of the kingdom. The French, too, are represented as trading to New Castle at this time for coal, in fleets of fifty sails at once, serving the ports of Picardy, Normandy, Rochelle and Bordeaux, while the ships of Bremen, Emboden, Holland and Zealand were supplying the inhabitants of Flanders.

Macaulay, in his History of England, says that "coal, though very little used in any species of manufacture, was already the ordinary fuel in some districts which were fortunate enough to possess large beds, and in the capital, which could easily be supplied by water carriage. It seems reasonable to believe that at least one-half of the quantity then extracted from the pits was consumed in London. The consumption of London seemed to the writers of that age enormous, and was often mentioned by them as a proof of the greatness of the imperial city. They scarcely hoped to be believed when they affirmed that two hundred and eighty thousand chaldrons, that is to say, about three hundred and fifty thousand tons, were, in the last year of the reign of Charles the Second (1685), brought to the Thames."

Coal mining was also prosecuted in Scotland in the eleventh and in Germany in the thirteenth century, while at the antipodes the Chinese had even at that early day become familiar with the use of coal.

Saward, in his Coal Trade for 1890, speaks thus of the coal supplies of the world:

"In view of the question which has suggested itself on more than one occasion as to how long it would be before the Old World coal deposits would become exhausted, a German scientific journal supplies some interesting figures relating to the world's coal fields outside of the North American Continent. According to these, the Low Countries, Switzerland, Denmark, Germany, and Bohemia possess coal mines of a surface area of about fifty-nine thousand square miles. Russia alone has twenty-two thousand square miles.

The deposits of the island of Formosa amount to something like ten thousand square miles, some of the coal veins ranging up to 96 feet in thickness. The coal fields of Austria, Spain, Portugal, Italy, Greece, Turkey, and Persia cover about thirty-nine thousand square miles, those of India thirty-five thousand, and those of Japan six thousand square miles, while those of China are estimated at the enormous figure of four hundred thousand square miles. But these are not all. The Falkland Islands, Patagonia, and Peru are very rich in coal, while the southern part of Chili is one immense deposit. In Brazil veins varying in thickness from seventeen to twenty-five feet are found in numbers, and in the United States of Columbia there is an abundance of the mineral. Mexico and the Vancouver Islands are also well supplied, there being probably not far from twenty thousand square miles, while the deposits thus far discovered in Tasmania, New Caledonia, and Natal are estimated to cover one hundred thousand square miles; the larger number of these deposits have not yet been worked."

But it was not until the eighteenth century that coal mining began to be scientifically prosecuted. Prior to that time the mines were of very limited depth, rarely going beneath water level; the coal was raised by a windlass or horse-gin, drainage affected by adits, or the water was raised in chain pumps or barrels operated by hand or horse-power, and the natural ventilation—aided in some instances by falling water, and later by furnaces—was usually the sole reliance for removing foul air and explosive gases.

Yet in some of these early operations there are pictures not unlike those to be seen every day at our modern mines; thus the following description of the early tram-roads and wagons used at Newcastle, from "The History and Antiquities of the Town of New Castle, upon Tyne," by John Brand, M. A., 1789, in which an article written by Lord

Keeper Guilder, 1676, quoted below, singularly resembles the present practice :

"The manner of carriage is by laying rails of timber from the colliery down to the river, exactly straight and parallel ; and bulky carts are made with four rowlets, fitting these rails, whereby the carriage is so easy that one horse will draw four or five chaldrons of coals, and is an immense benefit to the coal merchants."

The fate of many who embarked in mining at that time is strikingly similar to that which frequently overtakes the projectors of enterprises at present, as evinced by the following from Grey's "Chorographia," 1649 :

"One merchant imployeth five hundred or a thousand in his works of coal ; yet, for all of his labour, care and cost, can scarcely live by his trade ; nay, many of them hath consumed and spent great estates and dyed beggars. I can remember one, of many, that rayseed his estate by coale trade ; many I remember that hath wasted great estates."

"Some South gentlemen have, upon great hope of benefit, come into this country to hazard their monies in coale pits. Master Beaumont, a gentleman of great ingenuity and rare parts, adventured into our mines with his thirty thousand pounds ; who brought with him many rare engines, not known then in these parts—as, the art to boore with iron rodde, to try the deepnesse and thicknesse of the coale, rare engines to draw water out of the pits, wagons with one horse, to carry down coales from the pits to the stathes to the river. * * * In a few years he consumed all his money, and rode home upon his light-horse."

As it is with anthracite we have to deal, we will devote ourselves to that branch of coal. Of the value or even the existence of coal in America all races were ignorant until the eighteenth century. "At Christian Spring, near Nazareth, Pa., there was living about the year 1750 to 1755, a gunsmith, who, upon application being made him by several

Indians to repair their rifles, replied that he was unable to comply immediately; 'for,' said he, 'I am entirely bare of charcoal, but as I am now engaged in setting some wood to char it, therefore, you must wait several weeks.' This, the Indians, having come a great distance, felt loath to do; they demanded a bag from the gunsmith, and having received it, went away and in two hours returned with as much stone coal as they could well carry. They refused to tell where they had procured it." As there is no coal near Nazareth the tale seems improbable. If the time fixed had been two days, instead of two hours, the coal could have been brought from the Mauch Chunk region in that time. That portion of Pennsylvania purchased of the Five Nations by the Connecticut-Susquehanna Company at Albany, N. Y., July 11, 1754, for the sum of two thousand pounds of current money of the province of New York, embraced the Lackawanna and Wyoming coal district. Fourteen years later, November 5, 1768, the same territory was included in the Fort Stanwix purchase of the Indian Nations by the proprietary government of Pennsylvania. The strife between Pennsylvania and Connecticut resulted from these purchases. The first notice of coal at Wyoming grew out of the settlement there in 1762. Parshall Terry, in his deposition, says:

"As near as he can recollect, some time about the last of August, 1762, he, with ninety-three others, mostly from Connecticut, went to Wyoming, encamped at the mouth of Mill Creek, on the bank of the Susquehanna, built huts, made hay on Jacob's Plains, and shortly after were joined by many others, and they continued there ten days or longer. The committee of the settlers, viz.: John Jenkins, John Smith and Stephen Gardner advised us to return, which was agreed to." After the return home of these settlers the above committee, through their chairman, John Jenkins, made report of the discovery of iron ore and anthracite coal at Wyoming.

"At a meeting of the Susquehanna Company, held at Windham, in the county of Windham and colony of Connecticut, April 17, 1763, it appearing to this company that some of the proprietors of our purchase of lands at Susquehanna river, to the number of two or three hundred, desire that the lands may be laid out into several townships, as a part of their rights for the speedy settlement of said lands.

"It is therefore voted, That there shall be eight townships laid out on said river, as near as may be to the townships granted as gratuity to the first settlers, each of said eight townships to contain five miles square of land, fit for good improvement or equivalent thereunto as the land may suitably accommodate, at the discretion of a committee hereafter to be named and appointed for that purpose, *reserving* for the use of the company for their after-disposal, all beds or mines of iron ore and coal that may be within the towns ordered for settlement."

"This would appear to be the first discovery and mention of anthracite coal in the country."—*Dr. Egle's History of Pennsylvania.*

The next mention of coal is in a letter written by James Tilghman of Philadelphia, August 14, 1766, addressed to the Proprietaries, Thomas and Richard Penn, Spring Garden, London. At the close of four compact pages on other matters, it says: "My brother-in-law, Colonel Francis, one of the officers who lately applied to you for a grant of some lands in the Forks of the Susquehanna, when there shall be a purchase of the Indians, has lately made an excursion into those parts and has removed a good many of the people settled upon the Indian lands, partly by persuasion and partly by compulsion, which has made the Indians pretty easy, to appearance. He went up the N. E. Branch as far as Wyoming, where, he says, there is a considerable body of good lands and a very great fund of coal in the hills which surround a very fine and extensive bottom there. This coal

is thought to be very fine. With his compliments he sends you a piece of this coal. This bed of coal, situate as it is on the side of the river, may some time or other be a thing of great value." By way of postscript he adds: "the coal is in a small package of the Governor's." In a reply from Thomas Penn, dated London, November 7, 1766, to Mr. Tilghman, he says in acknowledgment: "I desire you will return my thanks to Colonel Francis for his good services in removing the intruders that were settled on the Indians' land, and for the piece of coal which we shall have examined by some persons skillful in that article, and send their observations on it."

The next mention we have of coal is on the original draft of the Manor of Sunbury, surveyed in 1768 by Charles Stewart in the Proprietary's interest, where appears the brief notation "stone coal" without further explanation. The location on the draft is near the mouth of Toby's creek, and not far from where the Woodward breaker is located.

The next mention of coal is as follows: During General Sullivan's march through Wyoming, in 1779, Major George Grant, one of his officers, wrote of the valley: "The land here is excellent, and comprehends vast mines of coal, pewter, lead and copperas." The last three named have never been found here.

The next mention of coal is as follows: John David Schopf, in his *Travels*, mentions a visit he made in 1783 to a bed of brilliant black coal, a mile above Wyoming, which, on handling, leaves no taint, and burns without emitting an offensive odor; that it was so abundant as to be obtained without any charge. He further tells us that a smith had erected workshops near it, and who spoke highly of its value. He noticed the numerous impressions of plants between the shale and the coal, which he believes proves its origin and great antiquity. It is found here on both sides of the river, and in various parts of the valley.

We here conclude the notice of coal with one further mention. Joseph Scott, in his "Gazetteer of the United States," published in 1795, in his remarks on Luzerne county, says: "Wilkes-Barre, the county seat, contains forty-five dwellings, a court house and jail, and several large beds of coal are found in the townships of Wilkes-Barre, Kingston, Exeter and Plymouth.

It is impossible to state when the consumption of Wyoming coal began. It is possible that the Indians at Wyoming had some knowledge of the combustible nature of anthracite coal. Two chiefs from the valley, in company with three others from the country of the Six Nations, visited England in 1710, and it is presumed they witnessed the burning of coal, then in general use in the cities of England for domestic purposes. The consumption of black stones instead of wood could not fail to make a deep impression on their minds, and they would naturally infer that this fuel was nearly allied to the black stones of their own country. The appearance of anthracite had long been familiar to their eyes. The forge, or seven feet vein of coal, had been cut through and exposed by the Nanticoke creek, and the seven feet vein of Plymouth had been laid open to view by Ransom's creek. The Susquehanna had exposed the coal at Pittston, and the Lackawanna at several points along its banks. If the Indians at that day were ignorant of the practical use of coal, they were at least acquainted with its appearance and not improbably with its inflammable nature. That the Indians had mines of some kind at Wyoming, the following account fully establishes:

In 1766 a company of Nanticokes and Mohicans, six in number, who had formerly lived at Wyoming, visited Philadelphia, and in their talk with the governor said: "As we came down from Chenango we stopped at Wyoming, where we had a mine in two places, and we discovered that some white people had been at work in the mine and had filled

canoes with the ore, and we saw their tools with which they had dug it out of the ground, where they made a hole at least forty feet long and five or six feet deep. It happened that formerly some white people did take now and then only a small bit and carry it away, but these people have been working at the mine and filled their canoes. We inform you that there is one John Anderson, a trader, now living at Wyoming, and we suspect he or somebody by him has robbed our mine. This man has a store of goods, and it may happen that when the Indians see their mine robbed they will come and take away his goods," etc. The substance alluded to by the Indians had been carried away in small quantities for some time, by the whites, perhaps to test its qualities, and it is highly improbable that it would have been afterwards removed by canoe loads unless it had been found to be a useful article. What could that useful article have been but coal? There were settlements of whites on the Susquehanna, a little below the site of the town of Northumberland, several years before the period when these Indians had their talk with the governor, and the coal may have been taken there for blacksmithing purposes. The Indians who had their guns repaired at Christian Spring certainly had knowledge of the value of coal for combustible purposes.

Obadiah Gore, who represented Westmoreland county in the legislature of Connecticut, in 1781 and 1782, and subsequently one of the judges of Luzerne county, and in 1788, 1789 and 1790 a member of the Pennsylvania legislature, emigrated from Plainfield, Conn., to Wyoming in 1769, and began life in the new colony as a blacksmith. Friendly with the remaining natives, from motives of policy, he learned of them the whereabouts of black stones, and being withal a hearty and an experimenting artisan, he succeeded in mastering the coal to his shop purposes the same year. He, in connection with his brother, Daniel Gore, also a

blacksmith, were the first white men in Wyoming to give practical recognition and development to anthracite as a generator of heat. In the few blacksmith shops in Wyoming Valley and the West Branch settlements coal was gradually introduced after its manipulation by Mr. Gore. Mr. Pearce, who differs from most of the historians of the valley, says, "We do not believe, as do some, that the Gores were the first whites who used anthracite on the Susquehanna for blacksmithing. Stone coal would not have been noted on the original draft of the Manor of Sunbury if it had not been known to be a useful article. Hence, when the first settlers came into our valley the evidence inclines us to believe the knowledge of the use of anthracite coal was communicated to them by the Indians or by some of their own race." Jesse Fell used anthracite coal in a nailery in 1788. He says, "I found it to answer well for making wrought nails, and instead of losing in the weight of the rods, the nails exceeded the weight of the rods, which was not the case when they were wrought in a charcoal furnace." When the struggle for American independence began, in 1775, the proprietary government of Pennsylvania found itself so pressed for firearms that under the sanction of the supreme executive council two Durham boats were sent up to Wyoming and loaded with coal at Mill Creek, a short distance above Wilkes-Barre, and floated down the Susquehanna to Harris Ferry (Harrisburg), thence drawn upon wagons to Carlisle, and employed in furnaces and forges to supply the defenders of our country with arms. This was done annually during the revolutionary war. Thus stone coal, by its patriotic triumphs, achieved its way into gradual use.

The Smith brothers, John and Abijah, of Plymouth, were the first in point of time who engaged in the continuing industry of the mining of anthracite coal in the United States. They left their home in Derby, Conn., in 1805-6, came to this

valley and immediately purchased coal land and engaged in mining coal. There were others who had made the attempt on the Lehigh, but the obstacles and discouragements which stood in the way proved too great and the work had to be given up. It was not resumed until the year 1820. *The Smith brothers shipped their first ark of coal in the fall of 1807, to Columbia, Pa. This was probably the first cargo of anthracite coal that was ever offered for sale in this country.* In 1808 they sent several ark loads to Columbia and other points. Prior to 1803, as we believe, the use of anthracite coal as a fuel was confined almost exclusively to furnaces and forges, using an air blast, notwithstanding the fact that Oliver Evans had, in 1802, and even before that time, demonstrated on several occasions that the blast was unnecessary for the domestic use of coal, and had successfully burned the fuel in an open grate and also in a stove without an artificial draft. In order to create a market for this fuel it became necessary to show that it could be used for domestic purposes as well as in furnaces and forges; that it was a better and more convenient fuel than wood, and that its use was attended with no difficulties. To accomplish this the Smiths went with their coal arks sent to market, and took with them a stone mason and several grates, with the purpose of setting the grates in the public houses where they might make known the utility of their fuel. In several houses in Columbia and in other towns the fire places for burning wood were changed by them and fitted for the use of coal, and coal fires were lighted, careful instructions being given meanwhile in the mysteries of a stone coal fire. After much perseverance and expense in providing coal and grates to demonstrate the valuable qualities of the new fuel, they disposed of a small part of their cargo and left the rest to be sold on commission. Notwithstanding the thorough manner in which they had set about the introduction of coal as a fuel for domestic uses, it was

several years before all obstacles to its use were overcome and they were able to gain a profit from the enterprise.

The annual average of the business of the Messrs. Smith from 1807 down to 1820 was from six to eight ark loads, or about four to five hundred tons. "The old Susquehanna coal ark, like the mastodon, is a thing of the past. The present men of the business should understand the character of the simple vessel used by the pioneers of the trade. Its size and dimensions, cost and capacity must be chronicled. The length of the craft was ninety feet, its width sixteen feet, its depth four feet, and its capacity 60 tons. Each end terminated in an acute angle, with a stem post surmounted by a huge oar some thirty feet in length, and which required the strength of two stout men to ply it in the water. It required in its construction thirty-eight hundred feet of two inch plank for the bottom, ends and sides, or seventy-six hundred feet board measure. The bottom timbers would contain about two thousand feet board measure, and the ribs or studs sustaining the side planks four hundred feet, making a total of some ten thousand feet. The ark was navigated by four men, and the ordinary time to reach tide water was seven days. Two out of three arks would probably reach the port of their destination; one-third was generally left upon the rocks in the rapids of the river or went to the bottom." The average price of sales at this time was probably ten dollars, leaving a profit of five dollars on the ton. If, therefore, three hundred and fifty tons of the five hundred annually transported by the Messrs. Smith reached the market, it left them a profit of seventeen hundred dollars, not taking into account their personal services. Mr. George M. Hollenback sent two ark loads down the Susquehanna, taken from his Mill Creek mines in 1813. The same year Joseph Wright of Plymouth mined two ark loads of coal from the mines of his brother, the late Samuel G. Wright, of New Jersey, near Port Griffith, in Jenkins township. This was an old

opening and coal had been mined there as far back as 1775. The late Lord Butler of Wilkes-Barre had also shipped coal from his mines, more generally known of late years as the "Baltimore mines," as early as 1814, and so had Crandall Wilcox of Plains township. Colonel George M. Hollenback sent two four-horse loads of coal to Philadelphia in 1813, and James Lee, of Hanover, sent a four-horse load to a blacksmith in Germantown. In 1813 Hon. Charles Miner was publishing *The Gleaner* in Wilkes-Barre, and in a long editorial article from his pen, under date of November 19, and the head of "State Policy," he urged, with great zeal, the improvement of the descending navigation of the Susquehanna and Lehigh rivers. He then said: "*The coal of Wyoming has already become an article of considerable traffic with the lower counties of Pennsylvania.* Numerous beds have been opened, and it is ascertained, beyond all doubt, that the valley of Wyoming contains enough coal for ages to come." Chapman, in his History of Wyoming, writing in 1817, speaking of coal, says: "*It constitutes the principal fuel of the inhabitants as well as their most important article of exportation.*" Plumb, in his History of Hanover township, says: "*From 1810 to 1820 one thousand or fifteen hundred tons per year were mined in Hanover,*" and "*there was a constant sale of coal down the river by arks from the time people learned to burn it in the house.*" In this small way the coal trade continued on from 1807 to 1820, when it assumed more importance in the public estimation. The years preceding that of 1820 were the years of its trials, and the men, during that period, who were engaged in the business were merely able to sustain themselves with the closest economy and the most persevering and unremitting labor. The following account current rendered by Price & Waterbury, of New York, to Abijah Smith & Co., is a remarkably interesting relic of the coal business in its infancy. It very clearly exhibits two facts—one the demand, price and consumption of coal in the

great city of New York at that period, and the other, the wonderful zeal manifested in the pioneer dealers to introduce the article into the market. The coal was sent to Havre de Grace, Maryland, and thence by coasting vessels to New York :

"NEW YORK, FEBRUARY, 1813.

MESSRS. ABIJAH SMITH & Co.,

Gentlemen :—Having lately taken a view of the business we have been conducting for you this sometime past, we have thought it would be gratifying to have the account forwarded, and therefore present you with a summary of it up to the 18th of January, 1813, containing first, the quantity of coal sold, and to whom ; second, the amount of cash paid us from time to time ; third, the amount of interest cash on the various sums advanced, the credit of interest on sums received ; and lastly, the quantity of coal remaining on hand unsold. Should you on the receipt of this find any of the items incorrect, we need hardly observe that the knowledge of such an error will be corrected with the greatest pleasure. As it respects our future plan of procedure we shall expect to see one of your concern in the city sometime in the spring, when a new arrangement may be fixed upon. Our endeavors to establish the character of the coal shall not at any time be wanting, and we calculate shortly to dispose of the remaining parcels of coal unsold."

1812.	June 8.	—By cash of Doty & Willets, for 5 chaldrons of coal	\$ 100 00
		By cash of John Withington, for 5 chaldrons of coal	100 00
		By cash of Coulthaid & Son, for 10 chaldrons of coal	200 00
		By John Benham's note, 90 days, for 10 chaldrons of coal	200 00
		By cash of G. P. Lorrilard, for 1 chaldron of coal	20 00
		By cash of J. J. Wilson, for 4 chaldrons of coal	80 00
	June 13.	—By cash of Doty & Willets, for 5 chaldrons of coal	100 00
		By cash of G. P. Lorrilard, for 11½ chaldrons of coal	230 00
		By A. Frazier's note, 90 days, for 25 chaldrons of coal	475 00
		By cash received of T. Coulthaid, for 5 chaldrons of coal	100 00
		By M. Womas' note, 90 days, for 20 chaldrons of coal	380 00
		By half measurement received for 9 bushels of coal	6 33
		By B. Ward and T. Blagge, for 1¼ chaldrons at \$20 per chaldron	25 00
		By Wittingham, for ½ chaldron of coal	10 00
	June 25.	—By Pirpont, for ½ chaldron of coal	11 00
		By Mr. Landiss, for ½ chaldron of coal	12 00
	July 16.	—By Robert Barney, for 17½ chaldrons of coal at \$22 per chaldron	385 00
	Sept. 15	—By cash for 1 chaldron of coal	12 50
	Oct. 9.	—By William Colman, for ½ chaldron of coal	12 50
		By Sexton & Williamson, for 1½ chaldrons of coal	37 50
	Oct. 24.	—By cash for 1 chaldron of coal	25 00
	Oct. 29.	—By cash for ½ chaldron of coal	12 50
	Nov. 7.	—By cash for ½ chaldron of coal	12 50
	Nov. 12.	—By cash for 1 chaldron of coal	25 00
	Nov. 16.	—By Mr. A. Le Briton, for 12 chaldrons of coal at \$25 per chaldron	288 50
	Dec. 5.	—By cash for ½ chaldron of coal	12 50
	Dec. 11.	—By cash A. Daily, for ½ chaldron of coal	12 50
	Dec. 14.	—By cash for ½ chaldron of coal	12 00
1813.	Jan. 4.	—By cash for 1 chaldron of coal	25 00
	Jan. 18.	—By J. Curtiz, for 9 bushels of coal	6 27
		By amount of balance this day	763 12

Total \$3661 20

Errors excepted, Price & Waterbury.

It will be seen by this account current that coal was sold by the chaldron, thirty-six bushels, or nearly a ton and a third to the chaldron. The sales therefore, for the New York supply in 1812, by this firm, were inside of two hundred tons.

It seems to be the common belief that the anthracite coal trade had its rise on the Lehigh in the year 1820, when three hundred and sixty-five tons of coal were carried to market, yet, as a matter of fact, the industry was begun at Plymouth thirteen years before, and for nine years prior to the beginning of the coal business on the Lehigh river the annual shipments on the Susquehanna were considerably in excess of the first year's product of the Lehigh region.

Mr. Pearce states that up to 1820 "the total amount of coal sent from Wyoming is reckoned at eighty-five hundred tons." This we believe to be a low estimate. The same author states that Colonel Washington Lee, in 1820, "mined and sent to Baltimore one thousand tons, which he sold at \$8 per ton." Coal had been introduced in Baltimore and sold there by the Smith Brothers prior to that date. Let us make a new *apex* to the *coal pyramids* now in use. Let it

NOTE.—The Lehigh region is great in making claims. For instance, on April 23, 1891, in the Senate of the state of Pennsylvania, Senator Rapsher of Carbon called up the following bill on third reading:

AN ACT appropriating the sum of two thousand dollars for the erection of a monument to the memory of Philip Ginter, the discoverer of anthracite coal in Pennsylvania.

SECTION 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same, that the sum of two thousand dollars be appropriated towards the erection of a suitable monument to commemorate the memory of Philip Ginter, the first discoverer of anthracite coal in Pennsylvania, to be paid to the committee in charge upon the warrant of the Auditor General.

Senator Hines from our own county asked leave to strike out the words "the first," because Philip Ginter was not the first discoverer of coal.

Senator Rapsher, in reply, said: Mr. President, the historians, like men, sometimes differ on that particular point, as to whether Philip Ginter was the first discoverer or not, but I think all the historians agree that Philip Ginter was the first authentic discoverer of anthracite coal in what was then Northampton county, a hundred years ago the first of next September, and it was the inception of the Lehigh Coal and Navigation Company, and was the beginning of the anthracite coal traffic in Pennsylvania, and because the anthracite coal interest was of so much importance to the State credit in our section, this could be granted without any great strain on our consciences.

Senator Green, of Berks, where they have no coal, said: Mr. President, I think we ought to have a discoverer of coal, and we might as well have him now as at any other time, so whether it is Mr. Ginter, or somebody else, makes very little difference to me. I am willing to concede to that gentleman that claim. I am willing to go further: I am willing to take the word of the senator from Carbon for it. If he thinks he is the discoverer of coal, I think so.

Fortunately the bill was defeated in the House of Representatives. Now, what was in

be understood that the *commencement of the trade* was in 1807, when the Smith Brothers sent to market and sold fifty-five tons.

Commencement of the Anthracite Coal Trade in the United States :

WYOMING REGION.		LEHIGH REGION.	
1807	55 tons.	. . . . .
1808	150 "	. . . . .
1809	200 "	. . . . .
1810	350 "	. . . . .
1811	450 "	. . . . .
1812	500 "	. . . . .
1813	500 "	. . . . .
1814	700 "	. . . . .
1815	1000 "	. . . . .
1816	1000 "	. . . . .
1817	1100 "	. . . . .
1818	1200 "	. . . . .
1819	1400 "	. . . . .
1820	2500 "	1820	365 tons.

The foregoing statement we believe to be absolutely correct. The pyramids now in use give the year 1829 as the commencement of the coal trade in the Lackawanna region, and seven thousand tons sent by the Delaware & Hudson Canal Company. The same pyramids start us in the Wyoming

this bill? First, to get \$2000 out of the state treasury to perpetrate a *falsehood*. This under false pretences.

Second. To place on record the further *falsehood* that Philip Ginter was the (first) discoverer of anthracite coal in Pennsylvania. Mr. Ginter, himself, did not claim that he was the discoverer, because "*he had heard of stone coal over in Wyoming.*"

Mr. Rapsher is certainly mistaken when he says that historians differ as to whether Philip Ginter was the first discoverer or not. No, they do not differ. All historians agree that Mr. Ginter discovered coal in what is now Carbon county, in 1791, and that *he was not the first discoverer of anthracite coal in Pennsylvania*. Ill informed people may think he was, but intelligent people know better. Mr. Rapsher states that the discovery of coal a hundred years ago the first of next September (1891), was the inception of the Lehigh Coal and Navigation Company, and was the beginning of the anthracite coal traffic in Pennsylvania. The Lehigh Coal and Navigation Company was incorporated February 13, 1822, and if its inception was in 1791, it took a long time to be born—even thirty-one years. The beginning of the coal trade was not on the Lehigh, but was on the Susquehanna, and commenced in 1807. Do not let this be forgotten. Senator Green thinks "we ought to have a discoverer of coal." "Whether it is Mr. Ginter, or somebody else, makes very little difference to (him) me." Most noble senator; you certainly do not speak the words of truth and soberness. In a work gotten up by the Central Railroad of New Jersey, in 1891, I read the following: "Mauch Chunk is in the very heart of the anthracite coal regions, and is also the *birthplace in America* of the Black Diamonds." Considering that coal was discovered on the Susquehanna in 1762, and on Bear Mountain, nine miles west of Mauch Chunk, in 1791, Mauch Chunk is a queer kind of a birthplace. It goes on the principle, claim everything for the Lehigh.

What surprises me, is that nothing in particular is claimed for the Schuylkill region. About all the worthies who make up tables and pyramids are Pottsville gentlemen, like Bannan, Daddow, Sheaffer, *et al.* They are probably not familiar with the history of the state, and least of all, with the coal trade and its beginning in the Wyoming region. With a new generation of better informed gentlemen Wyoming will probably have justice done her in the future.

region in 1842, as shipping by canal forty-seven thousand three hundred and forty-six tons—a surely good commencement, if true, of the first year's business on the canal. Our canal was opened in 1831. In 1830 the North Branch Canal was completed to the Nanticoke dam. The first boat, "The Wyoming," was built by Hon. John Koons, at Shickshinny. It was launched and towed to Nanticoke, where she was laden with ten tons of anthracite coal, a quantity of flour and other articles. Her destination was Philadelphia. The North Branch canal being new, and filling slowly with water, "The Wyoming" passed through the Nanticoke *chute* and thence down the river to Northumberland, where she entered the Susquehanna division of the Pennsylvania canal, and proceeded, with considerable difficulty, by the way of the Union and Schuylkill canals to Philadelphia. "The Wyoming" received in that city fifteen tons of dry goods, and commenced her return trip; was frozen up in the ice and snow at New Buffalo, in January, 1831. The voyage of "The Wyoming" was attended with many difficulties and detentions, and embraced a period of upwards of three months. The second boat, "The Luzerne," was built by Captain Derrick Bird, on the river bank opposite Wilkes-Barre. She was laden with coal which was conveyed to Philadelphia, whence she returned with a cargo of merchandise, arriving at the Nanticoke dam in July, 1831. The pyramid starts us in 1846 with five thousand eight hundred and eighty-six tons by the Lehigh railroad. The mistake about this is that the Lehigh & Susquehanna railroad was completed in 1843. These figures from the pyramid are by Benjamin Bannan, and taken from "Coal, Iron and Oil." Pearce, in his "Annals of Luzerne County," says: "The completion of the Lehigh & Susquehanna railroad in 1843, connecting Wilkes-Barre with White Haven, promised another outlet to market for Wyoming coal. These improvements, together with the discovery of

the methods of generating steam on boats, and of smelting iron in furnaces by the use of anthracite, created a great and increasing demand for coal in all quarters of the state, and in the seaports of the country generally." Let us take another pyramid, that of P. W. Sheaffer, in the "Coal Regions of America." He has the old "chestnut" of the "commencement of the coal trade" in 1820, on the Lehigh, with three hundred and sixty-five tons. He lets us in with the "Wyoming and State Canals, Lykens Valley railroad," in 1834, with forty-three thousand seven hundred tons, and the Lehigh & Susquehanna railroad in 1846. This pyramid business should be reconstructed. The stereotype should be destroyed. The apex should be an inch longer and given to Wyoming. The commencement of the coal trade belongs to her, and there is no excuse for ignorance or carelessness in the matter. *She had knowledge of coal twenty-nine years, and had burned it twenty-two years before it was discovered on the Lehigh*, and she put her knowledge to good use. When the time came the Yankees took their coal to market and *sold* it. None of their coal was thrown into the street as worthless. Under the instruction given by the Yankees to the purchasers they found that coal *would* burn, and nobody laughed at them for making investments in "black stones."

Philip Ginter discovered coal in the Lehigh region in 1791, on the Matchunk or Bear Mountain, about nine miles west of the site of Mauch Chunk. Mr. Ginter tells his own story, as follows:

"When I first came to these mountains some years ago, I built a cabin on the east side of the mountain, and managed, by hunting and trapping, to support my family in a rough way. Deer and bears were pretty thick, and during the hunting season meat was plentiful, but sometimes we ran short of that, and frequently were hard up for such necessities, as could only be purchased with the produce

of the hunter. One day, after a poor season, when we were on short allowance, I had unusually bad luck, and was on my way home empty handed and disheartened, tired and wet with the rain which commenced falling, when I struck my foot against a stone and drove it on before me. It was nearly dusk, but light enough remained to show me that it was black and shiny. *I had heard of 'stone coal' over in Wyoming, and had frequently pried into rocks in hopes of finding it.* When I saw the black rock I knew it must be stone coal, and on looking round I discovered black dirt and a great many pieces of stone coal under the roots of a tree that had been blown down. I took pieces of this coal home with me, and the next day carried them to Colonel Jacob Weiss, at Fort Allen (Weissport). A few days after this Colonel Weiss sent for me and offered to pay me for my discovery if I would tell him where the coal was found. I accordingly offered to show him the place if he would get me a small tract of land and water power for a saw mill I had in view. This he readily promised and afterwards performed. The place was found and a quarry opened in the coal mountain. In a few years the discovery made hundreds of fortunes, but I may say it ruined me, for my land was taken from me by a man who said he owned it before I did, and now I am still a poor man."

Mr. F. E. Saward in *The Coal Trade for 1891*, states that the Northern Anthracite Coal Field is the largest anthracite basin in the world. It has long been known as the Wyoming. Its coal production since 1860 is as follows:

1860	2,914,817 tons.
1870	7,974,666 "
1880	11,419,270 "
1890	18,657,694 "

To mine this coal requires the services of over 50,000 men and boys, and this number is steadily increasing rather than diminishing.

The total amount of anthracite coal mined in 1890, was 35,865,000 tons. Thus it will be seen that the Wyoming region produces 52 per cent. of the total anthracite production. The Schuylkill region in 1890, produced 10,867,821 tons, or 30.31 per cent., and the Lehigh region, the same year, produced 6,329,658 tons, or 17.65 per cent., and the Wyoming region, as we have seen, produced 18,657,694 tons, or 52.04 per cent.

We must disagree with Mr. Seward, as *every body else does who has any knowledge of the subject*, when he states that "the tables compiled by Prof. P. W. Sheaffer, for the years 1820 to 1868, inclusive, * * * have been adopted as the most correct so far as a report of the output is concerned." (See our remarks in regard to Mr. Sheaffer's tables in another place). Mr. Seward says, further: "The first means of transporting coal from the (Wyoming) coal field was by the Delaware & Hudson Canal, from Honesdale, Pa., to Rondout, N. Y., opened in 1829." This is certainly ignorance of the first water. Please remember that the coal trade on the Susquehanna river commenced in 1807, and constantly grew in importance. We have given in another place the trade up to 1820. Stewart Pearce's Annals of Luzerne County gives the following: "In 1823, Colonel W. Lee and George Cahoon, leased the Stivers mines in Newport, fourteen feet vein, and employed Timothy Mansfield to mine and deliver one thousand tons of coal into arks at Lee's Ferry. This coal was sold at Columbia, Pa." Mr. Pearce says, further: "From 1823 to 1829, the Susquehanna coal trade increased with considerable rapidity." Again Mr. Pearce says: "A coal bed was opened by Calvin Stockbridge in 1828, and during three years he sent about two thousand tons down the Susquehanna in arks." Mr. Seward states, further: "Shipments of coal from the Wilkes-Barre district began in 1846, via. the Lehigh and Susquehanna Railroad, and the Lehigh Canal, and later by the

Lehigh Valley Railroad." We are sorry, exceedingly sorry that Mr. Saward states that "shipments of coal from the Wilkes-Barre district began in 1846." Why, Mr. Sheaffer does better than this. He starts us in the Wyoming region in 1842, as shipping by canal. It is true our canal was opened in 1831, but Messrs. Sheaffer and Saward were not aware of this fact, or they would agree on their table. Mr. Pearce, in his Annals, states that there was 41,210 tons of coal shipped from the Wyoming valley, by the North Branch Canal, South, in 1841.

In 1842	47,346 tons.
" 1843	57,740 "
" 1844	114,906 "
" 1845	178,401 "
" 1846	166,923 "

Both Messrs. Sheaffer and Saward agree that the Lehigh and Susquehanna Railroad was opened in 1846. The Lehigh and Susquehanna railroad was completed in 1843, but Messrs. Sheaffer and Saward were not aware of this fact. *All we ask is that justice be done to the Wyoming region. We are entitled to it and expect it.* Mr. Saward further states, that in 1850 the Pennsylvania Coal Company began operations (which is correct); four years later the D. L. & W. R. Co. began mining and shipping coal. The Lackawanna coal field was opened to the coal trade in 1851 (not 1854), by the construction of the northern division of the D., L. & W. R. Co.

William Hooker Smith, M. D., removed from the province of New York, to Wilkes-Barre, in 1772, where he purchased land in 1774. His mind active, keen and ready, looked beyond the ordinary conceptions of his day, as is shown by his purchased right, in 1791, to dig iron ore and stone coal in Pittston, long before the character of coal as a heating agent in this country was understood, and the same year that the hunter, Ginter, accidentally discovered "black

stones" on Bear Mountain. These purchases, attracting no other notice than general ridicule, were made in Exeter, Plymouth, Pittston, Providence and Wilkes-Barre, between 1791-8. The first was made July 1, 1791, of Mr. Scott of Pittston, who, for the sum of five shillings, Pennsylvania money, sold "one-half of any minerals, ores of iron, or other metal which he, the said Smith, or his heirs and assigns, may discover on the hilly lands of the said John Scott, by the red spring." Of others, the language of the purchase was as follows: "The privilege to dig, delve and raze the ore, or mineral of stone coal, or iron ore on my land, free and clear, by William Hooker Smith."

It is impossible, at this date, to state who was the first person to discover that anthracite coal could be used for domestic purposes, but the weight of authority seems to be that Oliver Evans was the person. In a letter written by him to Jacob Cist, Esq., he says: "Being required to give my opinion of the qualities of the Lehi coals, I do certify to those whom it may concern, that I have experienced the use of them in a close stove and also in a fire place that may be closed and opened at pleasure, so contracted as to cause a brisk current of air to pass up through a small contracted grate on which they were laid. I find them more difficult to be kindled than the Virginia coal, yet a small quantity of dry wood laid on the grate under them is sufficient to ignite them, which being done they continue to burn while a sufficient quantity be added to keep up the combustion, occasionally stirring them to shake down the ashes. They, however, require no more attention than other coal, and consume away, leaving only a very light and white colored ashes; producing a greater degree of heat than any other coal that I am acquainted with, perhaps, in proportion to their weight, they being much the heaviest. They produce no smoke, contain no sulphur, and when well

ignited exhibit a vivid, bright appearance, all which render them suitable for warming rooms. And as they do not corrode mettle as much as other coals, they will probably be the more useful for steam engines, breweries, distilleries, smelting of metals, drying malt, &c. But the furnaces will require to be properly constructed, with a grate contracted to a small space through which the air is to pass up through the coal, permitting none to pass above them into the flue of the chimney until they are well ignited, when the doors of the stove or furnace or close fire place may be thrown open to enjoy the benefits of light and radiant heat in the front. A very small quantity of them is not sufficient to keep up the combustion; they require nearly a cubic foot to make a very warm fire, consuming about half a bus. in about fourteen hours.

“OLIVER EVANS.

“Philadelphia, February 15, 1803.”

It a letter to Jacob Cist, Esq., Frederick Graff also writes as follows: “Having made a trial of the Lehi coal some time in the year 1802 at the Pennsylvania bank, in the large stove, I found them to answer for that purpose exceeding well. They give an excellent heat and burn lively. It is my opinion they are nearly equal to double the quantity of any other coal brought to this market for durability; of course less labour is required in attending the fire. Mr. Davis, superintendent of the water works, has also made a trial of them for the boiler of the engine employed in that work, and has found them to answer well. It must be observed a draft is necessary when first kindled. For the use of familys the fire place can be so constructed, with a small expense, as to have the sufficient draft required. My opinion is they will be found cheaper than wood. They burn clean. No smoke or sulphur is observed, or any dirt flying when stirred, which is a great objection to all other coal for family use. If the chimneys for the burning of those coal

are properly constructed, and a trial made, I am well convinced that most of the citizens of Philadelphia would give them preference to wood.

"FRED'K GRAFF,

"Clerk of the Water Works of Philadelphia.

"Phila., May 1, 1805."

The originals of these letters are in the possession of our Society.

Jacob Cist, at the time these letters were written, if not an actual resident of this city at that time, was a very frequent visitor. In 1807 he married Sarah Hollenback, daughter of Judge Hollenback.

At an early day his attention was attracted towards the uses of anthracite coal. He was a boy of ten years when his father experimented on the Lehigh coal, and he might possibly have seen him at work. He must often have heard his father conversing with Colonel Weiss (the uncle of Jacob Cist), both in Philadelphia and Bethlehem, on the feasibility of opening their mines and making a market for the Lehigh coal, long before he was old enough to appreciate the importance of the undertaking or the disadvantages under which these pioneers of the coal trade labored in persuading people of the practicability of using stone coal as a fuel.

Jacob Cist was undoubtedly the first person to burn anthracite coal in our city. The letter of Oliver Evans, with its perfect description of burning anthracite coal in a grate or stove, accomplished the result. No better description could be given nowadays to those unfamiliar with coal for fuel than the letter of Mr. Evans. Mr. Cist was an enterprising citizen, perfectly familiar and interested in coal. He made the "experiment" and found that it would "answer the purpose of fuel, making a cleaner and better fire at less expense than burning wood in the common way." As early as the year 1805 he conceived the plan of manufacturing a mineral black for printers' ink, leather lacquer, blacking, &c., from the Lehigh coal and the results of his experiments

were secured to him by patent in 1808. This patent was considered to be worth upwards of five thousand dollars, but a number of law suits arising from a constant infringement of it by manufacturers so annoyed Mr. Cist that he was glad to dispose of it for a less sum. It is said that after the destruction of the patent office records by fire some one else took out a patent for the same idea and is now working under it. In the early days he made a study of our adjacent coal fields, especially at the mines of the Smith Brothers at Plymouth, and the old Lord Butler opening.

We believe that from 1803 anthracite coal was used for domestic purposes in this city. We have not before us the population of Wilkes-Barre at that time, but in 1820 she had a population of seven hundred and thirty-two. In 1803 the population probably did not exceed three hundred. These letters, written to one of her citizens, would excite comment and would be talked over by the entire population, men, women and children. The social standard of her citizens at that time was perfect equality. There were no ranks or grades. The apprentice, the laborer, the physician, the merchant and the lawyer were on speaking and visiting terms. As another writer has said, in speaking of the early history of coal: "Such was the theme of universal rejoicing throughout the valley that the event was discussed at every fireside, the topic went with the people to church, and was diffused throughout the congregation at large by common assent; it entered for a while into all conversations at home; it silenced every adverse criticism, as it gave the signal for long and mutual congratulations * * * where friend and foe alike acquiesced in the truth that Wyoming was freighted with infinite fortune." Coal up to this time had been mined by farmers and blacksmiths for their own use. In 1805 Abraham Williams, the pioneer miner, made his appearance in the *Federalist*, published at Wilkes-Barre, with the following advertisement:

"The subscriber takes this method of informing the public that he understands miners work. He has worked at it the greater part of twenty-three years in the mines of Wales, one year and a half in Schuyler's copper mines in New Jersey and three years in Ogden's in the same state. If any body thinks there is any ore on his lands, or wants to sink wells, blow rock or stones, he understands it wet or dry, on the ground or under the ground. He will work by the day or by the solid foot or yard, or by the job, at reasonable wages, for country produce.

"He works cheap for country produce,
But cash I think he wont refuse.
Money is good for many uses,
Despise me not nor take me scorn,
Because I am a Welshman by my born,
Now I am a true American,
With every good to every man."

"ABRAHAM WILLIAMS."

Doctor Thomas C. James of Philadelphia, in *Hazard's Register*, gives an account of a visit that he made in 1804 to the Lehigh coal region. He closes his article as follows: "The operations and success of the present Lehigh Coal and Navigation Company must be well known to the country; the writer will therefore close this communication by stating that he commenced burning the anthracite coal in the winter of 1804, and has continued its use ever since, believing, from his own experience of its utility, that it would ultimately become the general fuel of this as well as other cities."

Hon. Samuel Breck was a prominent citizen of Philadelphia. "His Recollections," with passages from his note books, 1771-1862, were edited by H. E. Scudder, and published by Porter & Coates in 1877. It contains this passage, among others:

"December 9, 1807. This morning I rode to Philadelphia and purchased a newly invented iron grate calculated

for coal, in which I mean to use that fuel if it answers my expectations."

"Dec. 26, 1807. By my experiment on coal fuel I find that one fire place will burn from three to three and a half bushels per week in hard weather and about two and a half in moderate weather. This averages three bushels for twenty-five weeks (the period of burning fire in parlors). Three times twenty-five gives seventy-five bushels for a single hearth, which, at forty-five cents, is thirty-three dollars and seventy-five cents, more than equal to six cords of oak wood at five dollars and fifty cents, and is, by consequence, no economy; but at thirty-three cents per bushel, which is the usual summer price, it will do very well."

The next person whom it is said burned coal in grates in the early days of coal fuel was Hon. Jesse Fell, of this city. He was a blacksmith in his early days, and had used coal in a nailery as early as 1788. He made the following entry on the last leaf of a book entitled "Illustrations of Masonry by William Preston—Alexandria—Printed by Cottom & Stewart, and sold at their Book Stores in Alexandria and Fredericksburg, 1804." On the fly leaf in Judge Fell's handwriting is the following: "Jesse Fell's Book, February 15th, 1808."

"February 11, of Masonry 5808. Made the *experment* of burning the common stone coal of this Valley in a grate, in a common fire place, in my house, and find it will answer the purpose of fuel, making a clearer and better fire at less expence than burning wood in the common way.

"JESSE FELL.

"Borough of Wilkes-Barre, Feb'y 18, 1808."

We do not believe, as some do, that Jesse Fell was the first person to burn anthracite coal in a grate in this county. He makes no claim in the above that he was. Those who make that claim, do so for the following reasons:

1. The entry as stated above.

2. That he "constructed a grate of green hickory saplings and placed it in a large fire place in his bar room, and filled it with broken coal. A quantity of dry wood was placed *under the grate* and set on fire, and the flame spreading through the coal it soon ignited, and before the wooden grate was consumed the success of the experiment was fully demonstrated."

3. That Hon. Thomas Cooper, president judge of the courts of Luzerne county, "became very angry to find that he had been superseded in the discovery, and he walked the floor muttering to himself, 'that it was strange an illiterate man like Fell' (which was not true) 'should discover what he had tried in vain to find out.'"

To these we answer :

1. There is no claim in the entry that Judge Fell was the first person to burn anthracite in a grate. He states he made the "*experiment*." It is very strange that an "experiment" should be made after a fact had been fully demonstrated. We think that he burned coal in a grate as early as 1803, as that was the time when, we believe, coal was first burned successfully in grates in Wilkes-Barre. If he did not he was certainly behind the times. We do not think that he would wait five years to make the "experiment" after his friend Jacob Cist received letters from Messrs. Evans & Graff. We also think that if he made the experiment in 1808 it would be published in *The Luzerne Federalist*. Mr. Miner would never slight his friend in that way. We think this entry was made at a date subsequent to 1808.

V. L. Maxwell, in his lectures on Mineral Coal, says: "At that day the Hon. Charles Miner was publishing in this town *The Luzerne Federalist*, the only newspaper then printed in this part of the state. I have had the pleasure of examining its files, but I find nothing published in 1808 respecting coal." It was rather late in 1808 to make an „experiment" after the fact had been fully demonstrated by

Messrs. Evans, Graff, Davis, James and Breck, several years before. The coal trade was opened by the Smith Brothers in 1807, and their first shipment was made in that year, and the year after was certainly a bad time to make the "experiment" of burning coal in a grate.

2. We do not believe that a blacksmith, as Mr. Fell was, would "construct a grate of green hickory saplings," and make the experiment of burning coal in it. A bar iron grate would be so much easier to make and would prove more satisfactory. We are not foolish enough to think, with our knowledge of coal, that a quantity of dry wood placed under a grate of green hickory and set on fire would prove the experiment of burning coal in a grate. The experiment, it seems to us, would be to dry the green hickory and then consume it and leave the coal down without much ignition.

3. Judge Cooper was born in London in 1759, and came to this country in 1795, and was, therefore, thirty-six years of age when he came to America. It is probable that before he came to this country he never saw any other fuel than coal, and that burned in grates. It is not at all likely that he would become very angry to find that he had been superseded in the discovery. It was not a new thing to him and he had no discovery to make.

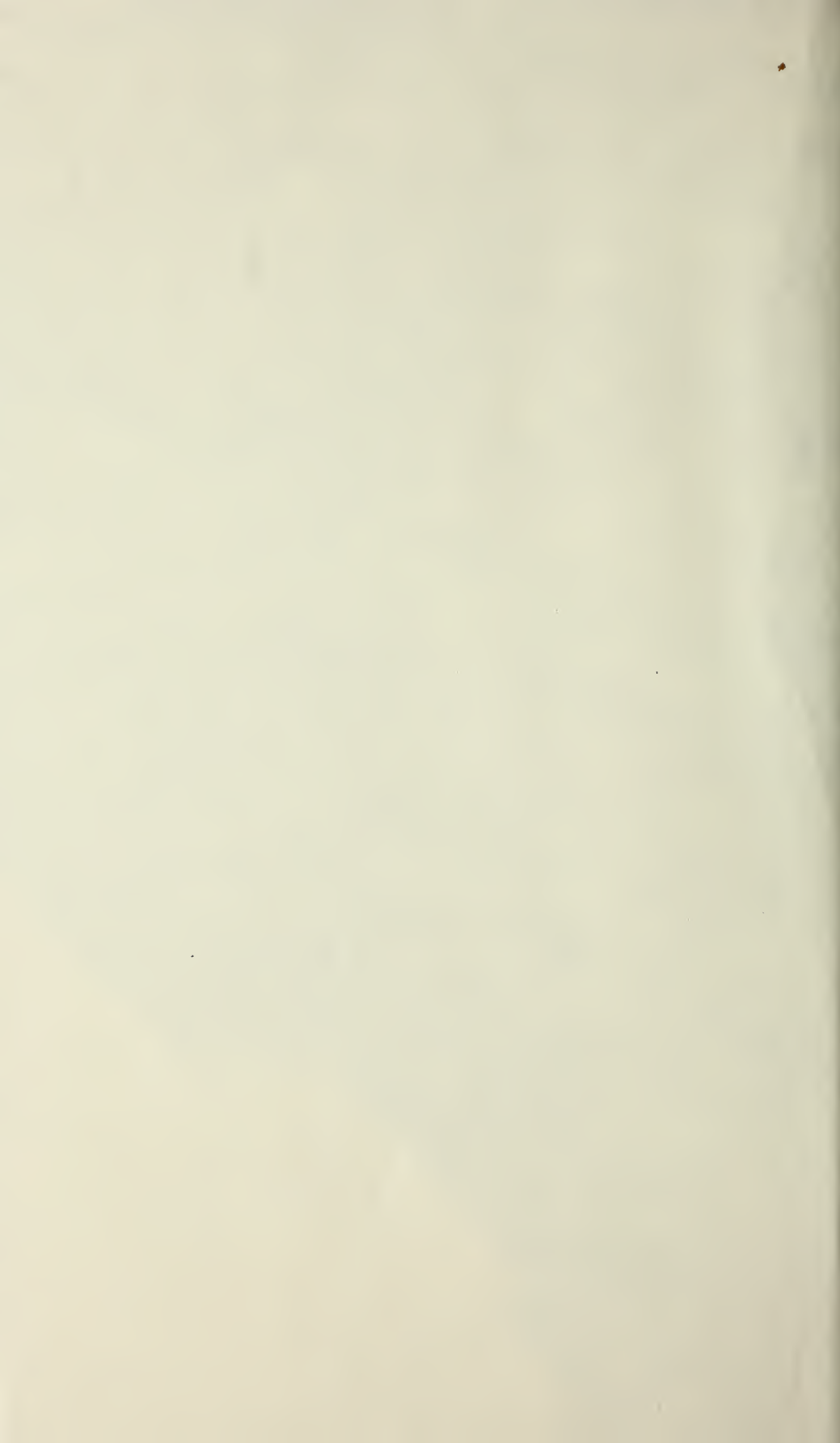
Mrs. Hannah C. Abbott, a resident of this city, the widow of John Abbott, and daughter of Hon. Cornelius Court-right, was born February 7, 1797, in Wilkes-Barre (now Plains) township. Her father's farm adjoined that of Daniel Gore, whom we have seen, burned coal in his blacksmith shop as early as 1769. She has been familiar with coal since her earliest recollection, having seen Mr. Gore burn it in his blacksmith shop, and in a grate in his cellar kitchen. She has no remembrance as to who the first person was who burned coal in a grate, but is certain that it was not Mr. Fell, as she never heard the claim made until she was

grown up. In 1808 she was eleven years of age, and if Mr. Fell burned coal in a grate at that time she would certainly remember it, as her father and Mr. Fell were particular friends, and both belonged to the same political party. Mrs. Abbott, notwithstanding her advanced age, is in the full possession of all her mental faculties, and is about the only person living who has a perfect knowledge of the very early coal trade of the valley.

If Judge Fell made the discovery that coal could be burned in grates successfully, he should have the honor due all persons who make valuable discoveries, and we would be the last person to rob him of his honors. But in the light we have to-day we must say that he was not the first person, but that in 1808 coal was a common fuel in this city, and was burned by all persons who had not wood in profusion. Improbable assertion, unreasonable conjectures and old wives' fables are not the best evidence that Judge Fell was the first person to burn anthracite coal in a grate in this city or anywhere else.

The following authorities, in part, have been consulted in preparing this paper :

- Buck, Wm. J., Article by, in Report of the Transactions of the Pennsylvania State Agricultural Society.
 Chance, H. M., Report of the Mining Methods and Appliances used in the Anthracite Coal Fields—Second Geological Survey of Pennsylvania.
 Chapman, I. A., History of Wyoming.
 Daddow & Bannon, Coal, Iron and Oil.
 Encyclopædia Britannica.
 Hazard, Samuel, Register of Pennsylvania.
 Hollister, H., History of the Lackawanna Valley.
 Hoyt, H. M., Brief of a Title in the Seventeen Townships.
 Kulp, Geo. B., Families of the Wyoming Valley.
 Macaulay, Lord, History of England.
 Macfarlane, James, Coal Regions of America.
 Maxwell, V. L., Mineral Coal.
 Miner, Charles, History of Wyoming.
 Pearce, Stewart, Annals of Luzerne County.
 Plumb, H. B., History of Hanover.
 Rees, Abraham, Cyclopædia of Arts, Science and Literature.
 Seward, Frederick E., The Coal Trade.
 Watson, John F., Annals of Philadelphia and Pennsylvania in the Olden Time.
 Wright, Hendrick B., Historical Sketches of Plymouth.



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